



#6/4B

# SEQUENCE LISTING

<110> TSURUOKA, Nobuo  
YAMASHIRO, Kyoko  
YAMAGUCHI, Nozomi

<120> Novel Serine Protease

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<140> US 09/147,947

<141> 1999-03-24

<150> PCT/JP98/03324

<151> 1998-07-24

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289

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337

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gtg	acg	gac	ttc	ggc	gcc	ccg	tgt	ctg	cgg	tgg	gcg	gag	gtg	cca	ccc		192
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Arg	His	Asn	Phe	Cys	Arg	Ser	Pro	Asp	Gly	Ala	Gly	Arg	Pro	Trp	Cys		
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Gln Cys Pro Lys Ser Ser Trp Gly Glu His Asn Cys Gly His Lys Glu			
305	310	315	320
gat gct gga gtg tcc tgt acc cct cta aca gat ggg gtc atc aga ctt			1008
Asp Ala Gly Val Ser Cys Thr Pro Leu Thr Asp Gly Val Ile Arg Leu			
325	330	335	
gca ggt ggg aaa ggc agc cat gag ggt cgc ttg gag gta tat tac aga			1056
Ala Gly Gly Lys Gly Ser His Glu Gly Arg Leu Glu Val Tyr Tyr Arg			
340	345	350	
ggc cag tgg gga act gtc tgt gat gat ggc tgg act gag ctg aat aca			1104
Gly Gln Trp Gly Thr Val Cys Asp Asp Gly Trp Thr Glu Leu Asn Thr			
355	360	365	
tac gtg gtt tgt cga cag ttg gga ttt aaa tat ggt aaa caa gca tct			1152
Tyr Val Val Cys Arg Gln Leu Gly Phe Lys Tyr Gly Lys Gln Ala Ser			
370	375	380	
gcc aac cat ttt gaa gaa agc aca ggg ccc ata tgg ttg gat gac gtc			1200
Ala Asn His Phe Glu Glu Ser Thr Gly Pro Ile Trp Leu Asp Asp Val			
385	390	395	400

agc tgc tca gga aag gaa acc aga ttt ctt cag tgt tcc agg cga cag	1248
Ser Cys Ser Gly Lys Glu Thr Arg Phe Leu Gln Cys Ser Arg Arg Gln	
405 410 415	
tgg gga agg cat gac tgc agc cac cgc gaa gat gtt agc att gcc tgc	1296
Trp Gly Arg His Asp Cys Ser His Arg Glu Asp Val Ser Ile Ala Cys	
420 425 430	
tac cct ggc ggc gag gga cac agg ctc tct ctg ggt ttt cct gtc aga	1344
Tyr Pro Gly Gly Glu Gly His Arg Leu Ser Leu Gly Phe Pro Val Arg	
435 440 445	
ctg atg gat gga gaa aat aag aaa gaa gga cga gtg gag gtt ttt atc	1392
Leu Met Asp Gly Glu Asn Lys Lys Glu Gly Arg Val Glu Val Phe Ile	
450 455 460	
aat ggc cag tgg gga aca atc tgt gat gat gga tgg act gat aag gat	1440
Asn Gly Gln Trp Gly Thr Ile Cys Asp Asp Gly Trp Thr Asp Lys Asp	
465 470 475 480	
gca gct gtg atc tgt cgt cag ctt ggc tac aag ggt cct gcc aga gca	1488
Ala Ala Val Ile Cys Arg Gln Leu Gly Tyr Lys Gly Pro Ala Arg Ala	
485 490 495	
aga acc atg gct tac ttt gga gaa gga aaa gga ccc atc cat gtg gat	1536
Arg Thr Met Ala Tyr Phe Gly Glu Gly Lys Gly Pro Ile His Val Asp	
500 505 510	
aat gtg aag tgc aca gga aat gag agg tcc ttg gct gac tgt atc aag	1584
Asn Val Lys Cys Thr Gly Asn Glu Arg Ser Leu Ala Asp Cys Ile Lys	
515 520 525	
caa gat att gga aga cac aac tgc cgc cac agt gaa gat gca gga gtt	1632
Gln Asp Ile Gly Arg His Asn Cys Arg His Ser Glu Asp Ala Gly Val	
530 535 540	
att tgt gat tat ttt ggc aag aag gcc tca ggt aac agt aat aaa gag	1680
Ile Cys Asp Tyr Phe Gly Lys Lys Ala Ser Gly Asn Ser Asn Lys Glu	
545 550 555 560	
tcc ctc tca tct gtt tgt ggc ttg aga tta ctg cac cgt cgg cag aag	1728
Ser Leu Ser Ser Val Cys Gly Leu Arg Leu Leu His Arg Arg Gln Lys	
565 570 575	
cgg atc att ggt ggg aaa aat tct tta agg ggt ggt tgg cct tgg cag	1776
Arg Ile Ile Gly Gly Lys Asn Ser Leu Arg Gly Gly Trp Pro Trp Gln	
580 585 590	
gtt tcc ctc cgg ctg aag tca tcc cat gga gat ggc agg ctc ctc tgc	1824
Val Ser Leu Arg Leu Lys Ser Ser His Gly Asp Gly Arg Leu Leu Cys	
595 600 605	
ggg gct acg ctc ctg agt agc tgc tgg gtc ctc aca gca gca cac tgt	1872
Gly Ala Thr Leu Leu Ser Ser Cys Trp Val Leu Thr Ala Ala His Cys	
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Phe Lys Arg Tyr Gly Asn Ser Thr Arg Ser Tyr Ala Val Arg Val Gly	
625 630 635 640	
gat tat cat act ctg gta cca gag gag ttt gag gaa gaa att gga gtt	1968
Asp Tyr His Thr Leu Val Pro Glu Glu Phe Glu Glu Glu Ile Gly Val	
645 650 655	
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Gln Gln Ile Val Ile His Arg Glu Tyr Arg Pro Asp Arg Ser Asp Tyr	
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Asp Ile Ala Leu Val Arg Leu Gln Gly Pro Glu Glu Gln Cys Ala Arg	
675 680 685	
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Phe	Ser	Ser	His	Val	Leu	Pro	Ala	Cys	Leu	Pro	Leu	Trp	Arg	Glu	Arg		
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cca	cag	aaa	aca	gca	tcc	aac	tgt	tac	ata	aca	gga	tgg	ggg	gac	aca	2160	
Pro	Gln	Lys	Thr	Ala	Ser	Asn	Cys	Tyr	Ile	Thr	Gly	Trp	Gly	Asp	Thr		
705						710					715				720		
gga	cga	gcc	tat	tca	aga	aca	cta	caa	caa	gca	gcc	att	ccc	tta	ctt	2208	
Gly	Arg	Ala	Tyr	Ser	Arg	Thr	Leu	Gln	Gln	Ala	Ala	Ile	Pro	Leu	Leu		
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cct	aaa	agg	ttt	tgt	gaa	gaa	cgt	tat	aag	ggg	cgg	ttt	aca	ggg	aga	2256	
Pro	Lys	Arg	Phe	Cys	Glu	Glu	Arg	Tyr	Lys	Gly	Arg	Phe	Thr	Gly	Arg		
						740					745				750		
atg	ctt	tgt	gct	gga	aac	ctc	cat	gaa	cac	aaa	cgc	gtg	gac	agc	tgc	2304	
Met	Leu	Cys	Ala	Gly	Asn	Leu	His	Glu	His	Lys	Arg	Val	Asp	Ser	Cys		
						755					760				765		
cag	gga	gac	agc	gga	gga	cca	ctc	atg	tgt	gaa	cgg	ccc	gga	gag	agc	2352	
Gln	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Met	Cys	Glu	Arg	Pro	Gly	Glu	Ser		
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tgg	gtg	gtg	tat	ggg	gtg	acc	tcc	tgg	ggg	tat	ggc	tgt	gga	gtc	aag	2400	
Trp	Val	Val	Tyr	Gly	Val	Thr	Ser	Trp	Gly	Tyr	Gly	Cys	Gly	Val	Lys		
						785					795				800		
gat	tct	cct	ggg	gtt	tat	acc	aaa	gtc	tca	gcc	ttt	gta	cct	tgg	ata	2448	
Asp	Ser	Pro	Gly	Val	Tyr	Thr	Lys	Val	Ser	Ala	Phe	Val	Pro	Trp	Ile		
						805					810				815		
aaa	agt	gtc	acc	aaa	ctg	taattcttca	tggaacttc	aaagcagcat								2496	
Lys	Ser	Val	Thr	Lys	Leu												
						820											
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				20				25						30			
Pro	Arg	Pro	His	Pro	Trp	Gly	Cys	Pro	Ala	Gly	Glu	Pro	Trp	Val	Ser		
				35				40						45			
Val	Thr	Asp	Phe	Gly	Ala	Pro	Cys	Leu	Arg	Trp	Ala	Glu	Val	Pro	Pro		
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Phe	Leu	Glu	Arg	Ser	Pro	Pro	Ala	Ser	Trp	Ala	Gln	Leu	Arg	Gly	Gln		
								70						75		80	
Arg	His	Asn	Phe	Cys	Arg	Ser	Pro	Asp	Gly	Ala	Gly	Arg	Pro	Trp	Cys		
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Phe	Tyr	Gly	Asp	Ala	Arg	Gly	Lys	Val	Asp	Trp	Gly	Tyr	Cys	Asp	Cys		
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Arg	His	Gly	Ser	Val	Arg	Leu	Arg	Gly	Gly	Lys	Asn	Glu	Phe	Glu	Gly		
				115				120						125			
Thr	Val	Glu	Val	Tyr	Ala	Ser	Gly	Val	Trp	Gly	Thr	Val	Cys	Ser	Ser		
						130		135						140			

His	Trp	Asp	Asp	Ser	Asp	Ala	Ser	Val	Ile	Cys	His	Gln	Leu	Gln	Leu
145					150					155					160
Gly	Gly	Lys	Gly	Ile	Ala	Lys	Gln	Thr	Pro	Phe	Ser	Gly	Leu	Gly	Leu
				165					170						175
Ile	Pro	Ile	Tyr	Trp	Ser	Asn	Val	Arg	Cys	Arg	Gly	Asp	Glu	Glu	Asn
			180					185					190		
Ile	Leu	Leu	Cys	Glu	Lys	Asp	Ile	Trp	Gln	Gly	Gly	Val	Cys	Pro	Gln
		195					200					205			
Lys	Met	Ala	Ala	Ala	Val	Thr	Cys	Ser	Phe	Ser	His	Gly	Pro	Thr	Phe
	210					215					220				
Pro	Ile	Ile	Arg	Leu	Ala	Gly	Gly	Ser	Ser	Val	His	Glu	Gly	Arg	Val
225					230					235					240
Glu	Leu	Tyr	His	Ala	Gly	Gln	Trp	Gly	Thr	Val	Cys	Asp	Asp	Gln	Trp
				245					250						255
Asp	Asp	Ala	Asp	Ala	Glu	Val	Ile	Cys	Arg	Gln	Leu	Gly	Leu	Ser	Gly
			260					265					270		
Ile	Ala	Lys	Ala	Trp	His	Gln	Ala	Tyr	Phe	Gly	Glu	Gly	Ser	Gly	Pro
		275					280					285			
Val	Met	Leu	Asp	Glu	Val	Arg	Cys	Thr	Gly	Asn	Glu	Leu	Ser	Ile	Glu
	290					295					300				
Gln	Cys	Pro	Lys	Ser	Ser	Trp	Gly	Glu	His	Asn	Cys	Gly	His	Lys	Glu
305					310					315					320
Asp	Ala	Gly	Val	Ser	Cys	Thr	Pro	Leu	Thr	Asp	Gly	Val	Ile	Arg	Leu
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Ala	Gly	Gly	Lys	Gly	Ser	His	Glu	Gly	Arg	Leu	Glu	Val	Tyr	Tyr	Arg
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Tyr	Val	Val	Cys	Arg	Gln	Leu	Gly	Phe	Lys	Tyr	Gly	Lys	Gln	Ala	Ser
	370					375					380				
Ala	Asn	His	Phe	Glu	Glu	Ser	Thr	Gly	Pro	Ile	Trp	Leu	Asp	Asp	Val
385					390					395					400
Ser	Cys	Ser	Gly	Lys	Glu	Thr	Arg	Phe	Leu	Gln	Cys	Ser	Arg	Arg	Gln
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Trp	Gly	Arg	His	Asp	Cys	Ser	His	Arg	Glu	Asp	Val	Ser	Ile	Ala	Cys
			420					425					430		
Tyr	Pro	Gly	Gly	Glu	Gly	His	Arg	Leu	Ser	Leu	Gly	Phe	Pro	Val	Arg
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Leu	Met	Asp	Gly	Glu	Asn	Lys	Lys	Glu	Gly	Arg	Val	Glu	Val	Phe	Ile
	450					455					460				
Asn	Gly	Gln	Trp	Gly	Thr	Ile	Cys	Asp	Asp	Gly	Trp	Thr	Asp	Lys	Asp
465					470					475					480
Ala	Ala	Val	Ile	Cys	Arg	Gln	Leu	Gly	Tyr	Lys	Gly	Pro	Ala	Arg	Ala
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Arg	Thr	Met	Ala	Tyr	Phe	Gly	Glu	Gly	Lys	Gly	Pro	Ile	His	Val	Asp
			500					505					510		
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		515					520					525			
Gln	Asp	Ile	Gly	Arg	His	Asn	Cys	Arg	His	Ser	Glu	Asp	Ala	Gly	Val
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Ile	Cys	Asp	Tyr	Phe	Gly	Lys	Lys	Ala	Ser	Gly	Asn	Ser	Asn	Lys	Glu
545					550					555					560
Ser	Leu	Ser	Ser	Val	Cys	Gly	Leu	Arg	Leu	Leu	His	Arg	Arg	Gln	Lys
				565					570					575	
Arg	Ile	Ile	Gly	Gly	Lys	Asn	Ser	Leu	Arg	Gly	Gly	Trp	Pro	Trp	Gln

580 585 590  
 Val Ser Leu Arg Leu Lys Ser Ser His Gly Asp Gly Arg Leu Leu Cys  
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 Gly Ala Thr Leu Leu Ser Ser Cys Trp Val Leu Thr Ala Ala His Cys  
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 Phe Lys Arg Tyr Gly Asn Ser Thr Arg Ser Tyr Ala Val Arg Val Gly  
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 Asp Tyr His Thr Leu Val Pro Glu Glu Phe Glu Glu Glu Ile Gly Val  
 645 650 655  
 Gln Gln Ile Val Ile His Arg Glu Tyr Arg Pro Asp Arg Ser Asp Tyr  
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 Asp Ile Ala Leu Val Arg Leu Gln Gly Pro Glu Glu Gln Cys Ala Arg  
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 Phe Ser Ser His Val Leu Pro Ala Cys Leu Pro Leu Trp Arg Glu Arg  
 690 695 700  
 Pro Gln Lys Thr Ala Ser Asn Cys Tyr Ile Thr Gly Trp Gly Asp Thr  
 705 710 715 720  
 Gly Arg Ala Tyr Ser Arg Thr Leu Gln Gln Ala Ala Ile Pro Leu Leu  
 725 730 735  
 Pro Lys Arg Phe Cys Glu Glu Arg Tyr Lys Gly Arg Phe Thr Gly Arg  
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 Met Leu Cys Ala Gly Asn Leu His Glu His Lys Arg Val Asp Ser Cys  
 755 760 765  
 Gln Gly Asp Ser Gly Gly Pro Leu Met Cys Glu Arg Pro Gly Glu Ser  
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 Trp Val Val Tyr Gly Val Thr Ser Trp Gly Tyr Gly Cys Gly Val Lys  
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 Asp Ser Pro Gly Val Tyr Thr Lys Val Ser Ala Phe Val Pro Trp Ile  
 805 810 815  
 Lys Ser Val Thr Lys Leu  
 820